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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,755	10/22/2001	Young-Kwon Cho	678-757 (P9993)	7574

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EXAMINER

FILE, ERIN M

ART UNIT	PAPER NUMBER
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2611

MAIL DATE	DELIVERY MODE
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05/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/037,755	Applicant(s) CHO ET AL.	
	Examiner Erin M. File	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 19 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 6, 9, 14, 15, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Baker et al. (U.S. Patent No. 6,163,563).

Claims 5, 14, Baker discloses:

- a modulator for generating a modulated pilot symbol by outputting an input pilot channel data at a designated phase according to an information bit of the transmission data for determining the phase (col. 9, lines 37-42); and
- a spreader for spreading a modulated pilot symbol output from the modulator with a predefined orthogonal code (col. 9, lines 30-32).

Claims 6, 15, Baker discloses:

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- a modulator for generating a modulated pilot symbol by outputting an input pilot channel data on a designated complex channel according to an information bit of the transmission data for determining the complex channel (col. 9, lines 37-42);
- a spreader for spreading a modulated pilot symbol output from the modulator with a predefined orthogonal code (col. 9, lines 30-32).

Claim 9, 18, Baker discloses:

- a modulator for generating a modulated pilot symbol by outputting an input pilot channel data on a designated complex channel according to an information bit of the transmission data for determining the complex channel (col. 9, lines 37-42);
- a spreader for spreading the modulated pilot symbol with an orthogonal code selected according to the information bit, from a plurality of orthogonal codes.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker et al. (U.S. Patent No. 6,163,563) in view of Johnston (U.S. Patent No. 5,481,614).

Claims 1, 10, Baker discloses:

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- a modulator for generating a modulated pilot symbol by outputting an input pilot channel data at at least one of a designated phase and on a designated complex channel according to an information bit of the transmission data for designating at least one of the phase and the complex channel (col. 9, lines 37-42)
- a spreader for spreading the modulated pilot symbol from the modulator with an orthogonal code selected among a plurality of orthogonal codes (col. 9, lines 30-32);

Baker fails to disclose the burst pilot channel transmits side information being dependent on the transmission data according to at least one of the phase, and the complex channel and the orthogonal code, however, Johnston discloses a bit flag which specifies the coding mode (indicative of channel information) of the band to transmit side information (col. 21, lines 3-6). Because Johnston discloses that this method of coding has the advantage in being adaptive in time (col. 21, lines 3-6), it would have been obvious to one skilled in the art at the time of invention to incorporate the side information transmission method of Johnston into the inventions of Baker.

Claims 2, 11, Neither Baker nor Johnston disclose the modulated pilot symbol has a length of 128 chips, however, at the time of invention, it would have been obvious to a person of ordinary skill in the art to adjust pilot length of 128 chips. Applicant has not disclosed using this particular code length provides an advantage, is used for a particular purpose, or solves a stated problem. Further, the specification discloses that the burst pilot channel can vary from 64 to as many as 1,024 chips. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform

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equally well with pilot bursts of varying sizes. Therefore, it would have been obvious to one of ordinary skill in this art to modify Baker to obtain the invention as specified in Claim 2.

Claims 3, 12, Baker discloses a modulated pilot symbol with a length of 64 chips (col. 1, line 66).

Claims 4, 13, Baker discloses the complex channel includes an I channel and a Q channel (col. 3, lines 32-42, fig. 2).

6. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender (U.S.) in view of Ghosh et al. (U.S. Patent No. 6,366,601).

Claims 7, 16, Bender discloses:

- a modulator for generating a burst pilot symbol ([0037]); and
- a spreader for spreading the burst pilot symbol with an orthogonal code selected, from a plurality of orthogonal codes ([0037])

Bender fails to disclose according to an information bit of the transmission data, however, Ghosh discloses selecting one of a plurality of orthogonal codes according to the information of the number of data bits (col. 2, lines 39-44). Because Ghosh discloses the advantage of the bandwidth capacity of a communication link from a source user to a destination user is maximized (col. 1, lines 51-53), it would have been obvious to one skilled in the art at the time of invention to incorporate the code selection as disclosed by Ghosh into the invention of Bender.

7. Claims 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker et al. (U.S. Patent No. 6,163,563) in view of Ghosh et al. (U.S. Patent No. 6,366,601).

Claim 8, 17, Baker discloses a modulator for generating a modulated pilot symbol by outputting an input pilot channel data at a designated phase according to an information bit of the transmission data for designating the phase (col. 9, lines 37-42). Baker fails to disclose a spreader for spreading the modulated pilot symbol with an orthogonal code selected according to the information bit, from a plurality of orthogonal codes, however, Ghosh discloses selecting one of a plurality of orthogonal codes according to the information of the number of data bits (col. 2, lines 39-44). Because Ghosh discloses the advantage of the bandwidth capacity of a communication link from a source user to a destination user is maximized (col. 1, lines 51-53), it would have been obvious to one skilled in the art at the time of invention to incorporate the code selection as disclosed by Ghosh into the invention of Baker.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin M. File whose telephone number is 5712726040. The examiner can normally be reached on M-F 1-9:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 5712723024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

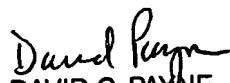
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erin M. File

EF

5/10/2007


DAVID C. PAYNE
SUPERVISORY PATENT EXAMINER